

Catalogue of American Amphibians and Reptiles.

Iverson, J. B and J. F. Berry. 1998. *Kinosternon chimalhuaca*.

Kinosternon chimalhuaca
Berry, Seidel, and Iverson
Jalisco Mud Turtle

Kinosternon integrum: Smith and Smith 1979 (1980):122 (in part; see Comment).

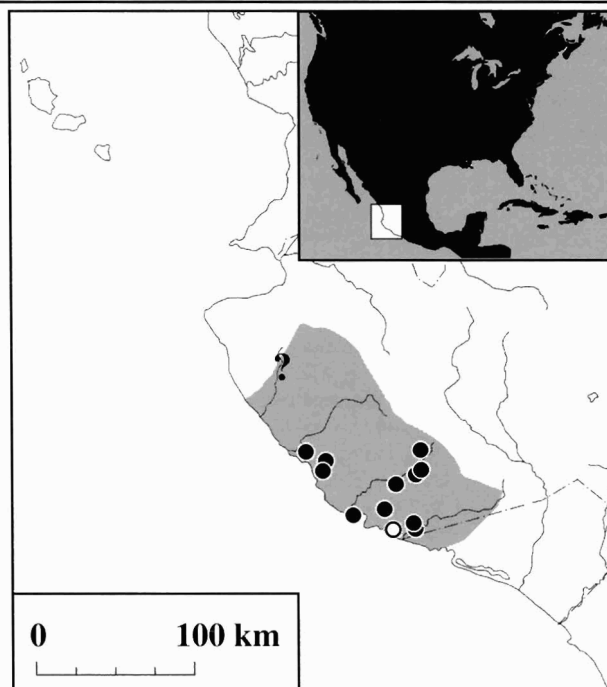
Kinosternon scorpioides integrum: Casas-Andreu 1982:76 (in part).

Kinosternon chimalhuaca Berry, Seidel, and Iverson in Rogner 1996:18 (also Berry, Seidel, and Iverson 1997:329; see Comment). Type locality, "... a clear pond located 30 m southeast of Mexico Highway 80, 1.9 km northeast of Barra de Navidad, Jalisco, Mexico (19°15'N, 104°43'S)." Holotype, Carnegie Museum (CM) 140201, adult male, collected 29 June 1979 by J.F. Berry and M.E. Seidel (examined by authors).

• **Content.** *Kinosternon chimalhuaca* is a monotypic species.

• **Definition.** *Kinosternon chimalhuaca* is a medium-sized species of *Kinosternon*, adult females reach approximately 130 mm in carapace length (CL), adult males 160 mm. The carapace is relatively depressed and wide (carapace width 56.6–69.0% of carapace length in males, 61.8–71.0% of CL in females), with three faint longitudinal keels and imbricate scutes; it is evenly rounded or flat-topped in cross section. Annuli (growth zones) are evident on plastral and carapacial scutes in all small and medium, and in some large individuals. The first vertebral scute is narrow, contacting the second marginal scute in only 12% of individuals. Marginals M1–9 are aligned dorsally; M10 is abruptly higher than M9, and M11 is lower than M10 and higher than M9. The vertebral scutes are variable in size (V1–V3 may be longest, V1 or V3–V5 may be widest, and V4–V5 may be shortest). The carapace is flared laterally at M8–M10. The carapace is dark brown, olive, or tan, often with darker patches or stains. Interlaminal seams are dark brown or black.

The plastron is relatively small, smaller in adult males than in females (anterior width of plastral hindlobe at hinge = 50.5–57.6% of carapace width [CW] in males, 54.2–64.0% of CW in females), but never completely concealing soft parts. The plastron is concave in males, and flat to slightly convex in females and juveniles. Two kinetic hinges are present, the anterior hinge being nearly straight (perpendicular to midline) and freely moveable, and the posterior hinge being curved and slightly moveable. The posterior lobe is slightly constricted at the hinge in adult males, but not in either females or juveniles. The anal notch is distinct and more deeply emarginate in males than in females. The axillary and inguinal scutes are in contact; the axillaries extend from posterior M4 to posterior M5 or anterior M6, and the inguinals from posterior M5 or anterior M6 to mid- or posterior M8. The anterior portion of the axillaries and posterior portion of the inguinals are occasionally replaced by skin in older, larger individuals. The plastral scutes in order of decreasing length at the midline are: abdominal>anal>gular>femoral>humeral>pectoral (74.5% of specimens), or abdominal>anal>gular>femoral>pectoral>humeral (25.5%). The fixed portion of plastron is moderately long (interabdominal seam length is 21–27% of CL in males, and 23–29% of CL in females). The bridge is relatively narrow (bridge length is 15–21% of CL in males, and 20–23% of CL in females). The plastron is yellow to brown with darker interlaminal seams, often with darker stains concentrated especially at the bridge.



Map. Distribution of *Kinosternon chimalhuaca*. The circle marks the type locality; dots indicate other records.

The head is moderately large, and generally larger in males than in females (head width is 20.7–24.4% of CL in males, and 19.3–22.4% of CL in females). The rostral shield is V-shaped or bell-shaped. The maxillary tomium is strongly hooked in adults, particularly in large males, and less strongly hooked in

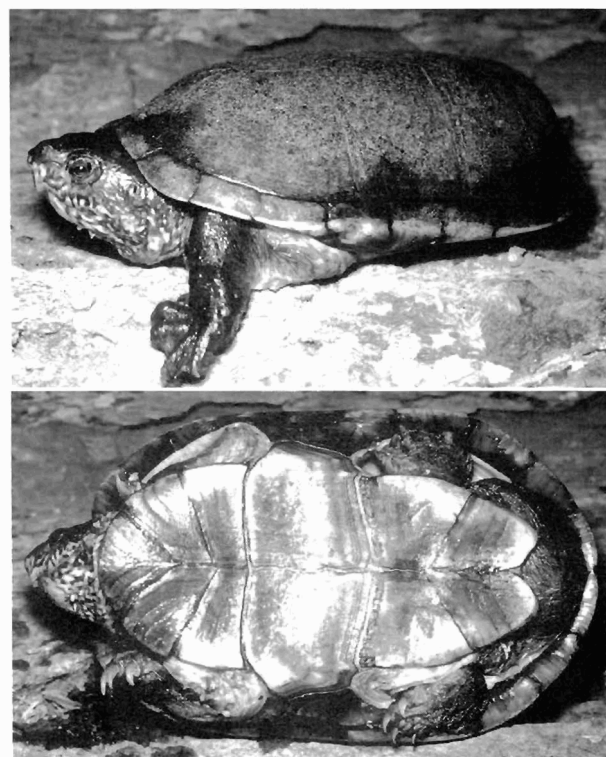


Figure. Adult female *Kinosternon chimalhuaca* from Jalisco, México (photographs by J.B. Iverson).

juveniles. One to four pairs of pointed chin barbels are present. Four to eight rows of papillae are present on the lateral and dorsal surfaces of neck. The tongue is papillose. The head of preserved specimens is dark brown or gray above, mottled with yellow or light brown, often coalescing into a reticulated pattern or vague longitudinal stripes (juveniles have a distinct yellow stripe passing from the inferior orbit to the posterior mandible); yellow to light brown or gray below, with or without darker spots in the gular region. The toms are yellow, brown, or gray, and are heavily streaked with dark brown or black in males and slightly streaked or immaculate in females and juveniles. The head of live specimens is dark green to brown, and mottled with bright yellow to orange-yellow, or light brown.

The manus and pes are small and fully webbed; digital claws are well developed. Keratinized patches of scales on the posterior thigh and leg (climbing organs) are lacking in both sexes. The falciform scales on the antibrachium and heel are typically kinosternine, and variably keratinized. The tail of males is long and prehensile (>50% length of posterior plastral lobe); that of females is short (<50% of posterior plastral lobe), with 4–6 longitudinal rows of well-developed papillae. The tail of both sexes terminates in a horny spine. The limbs and tail are brown or gray above, cream or yellow below.

• **Diagnosis.** *Kinosternon chimalhuaca* is most similar to *K. oaxacae* and *K. integrum*, but distinguishable by the following combination of characters: a depressed, weakly tricarinate carapace; a relatively small plastron which does not close the ventral aspect of the shell; the posterior plastral lobe only slightly moveable, with a distinct posterior notch; plastral midlobe of moderate length; bridge narrow and with axillary and inguinal scutes in contact; and no horny scales present on posterior thigh.

• **Descriptions.** General descriptions are found in Berry (1978), Rogner (1996), and Berry et al. (1997).

• **Illustrations.** Black and white photographs are in Berry (1978) and Berry et al. (1997). Color photographs appear in Berry et al. (1997) and Rogner (1996, although the legend is reversed with *K. flavescens arizonense*).

• **Distribution.** *Kinosternon chimalhuaca* occurs along the Pacific coast of southern México in the states of Jalisco and Colima, from the Río San Nicolas south and east to the Río Cihuatlán.

• **Fossil Record.** None.

• **Pertinent Literature.** A review of the taxonomy and general biology is in Berry et al. (1997). Protein variation is discussed in Seidel et al. (1986), and phylogenetic relationships are described in Iverson (1988, 1991). Morphological variation is described in Berry (1978) and habitat is discussed in Casas-Andreu (1982).

• **Etymology.** The specific name *chimalhuaca* is taken from the tribe of native Americans suggested to have occupied southern Pacific coastal México in the historical novel *Aztec* by novelist Gary Jennings (1980).

• **Comment.** *Kinosternon chimalhuaca* was previously referred to as *K. integrum* from coastal Colima and Jalisco, México (Berry 1978, his population “8B;” Seidel et al. 1986) and as “new sp.” (Iverson 1988, 1991).

Rogner (1996) inadvertently published manuscript material furnished to him by the authors of this species prior to their own publication of it. *Kinosternon chimalhuaca* Berry, Seidel, and Iverson thus was made available as of Rogner (1996). Complete description and type series were published the following year (Berry et al. 1997).

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